数据表 | Data sheet
压力变送器 DS01+
Pressure transducer DS01+

DS01 + 系列微处理器控制的压力变送器适用于测量非腐蚀性气体的正压、负压和差压。压力测量通过压阻式半导体传感器实现。根据型号不同，DS01 + 可测量 2.5 hPa 至 100 hPa 的压力。该压力变送器有两种基本版本，其测量范围可通过 DIP 开关在四个区间内切换。DS01 + 不仅在测量范围上为用户提供了最大灵活性，还可根据应用需求轻松调整输出信号和时间常数，无需复杂的重新调试。其轻巧紧凑的结构堪称空间优化的典范，特别适合在狭窄空间内进行低压测量。无磨损的测量系统几乎无需维护。如需校正测量值，可轻松调整零点和幅值。可选配 LCD 显示屏，通过简单的插拔系统即可加装。

The microprocessor controlled DS01+ pressure transmitter is used for measurement of differential, positive and negative pressure variations of non-aggressive gasses. The application utilizes a piezoresistive silicon sensor. Depending on the type of DS01+, pressure ranges from 2.5 hPa to 100 hPa can be measured. The pressure transmitter is available in two basic versions. By using a DIP switch four different pressure
ranges can be set. The DS01+ offers maximum flexibility not only in terms of pressure ranges but also the output signal and time constant can quickly and easily be adjusted. Due to its light-weighted and compact construction it is ideal when measurement of low ranges in confined space conditions is needed.
The wear-free measuring system allows an almost maintenance-free operation. Zero-point and amplitude can easily be adjusted if necessary. An LCD-Display is available as an option and can also be retrofitted via plug system.

应用领域

DS01 + 差压变送器典型应用包括：暖通空调技术、洁净室技术、微气流技术、物位测量、过滤技术和流量测量。

Applications

The DS01+ pressure transmitter is most commonly used for the following applications: HVAC, clean room, fine draft measurement, level indication, filter monitoring, and duct flow.

技术数据 | Technical Data

常规参数 | General	
测量原理 | Measurement principle	压阻式膜片传感器 Piezoresistive membrane sensor
测量介质 | Measured medium	非腐蚀性气体 | Non-aggressive gasses
接触介质材料 | Medium-affected substances	Si, Al, Au, Cu, Ni, Pd, EP, PC, ABS

测量数据 | Measurement data	
测量范围 | Measurement range	变体| Variants: **DS01+ 1 hPa:** 可在以下范围切换 | selectable between 0... 0,25 hPa | 0... 0,5 hPa | 0... 0,75 hPa | 0... 1 hPa -0,25 hPa... 0,25 hPa | -0,5... 0,5 hPa | -0,75... 0,75 hPa | -1... 1 hPa **DS01+ 10 hPa:** 可在以下范围切换 | selectable between 0... 2,5 hPa | 0... 5 hPa | 0... 7,5 hPa | 0... 10 hPa -2,5 hPa... 2,5 hPa | -5... 5 hPa | -7,5... 7,5 hPa | -10... 10 hPa **DS01+ 100 hPa:** 可在以下范围切换 | selectable between 0... 25 hPa | 0... 50 hPa | 0... 75 hPa | 0... 100 hPa -25 hPa... 25 hPa | -50... 50 hPa | -75... 75 hPa | -100... 100 hPa
总体精度 | Overall accuracy	1% 满量程* | FS*
长期稳定性 | Long-term stability	<±0.1% 满量程 / 年 | FS/year
温度漂移 | Temperature drift	<±0.05% 满量程 / K| FS/K
过载极限 | Overload limits	基本测量范围： | Basic measurement range 0... 1 hPa 0... 10 hPa 0... 100 hPa 过载极限： | Overload limit 70 hPa 100 hPa 800 hPa 爆破压力： | Burst pressure 200 hPa 200 hPa 1000 hPa

* 精度描述了传感器输出信号与施加压力值的最大允许测量偏差。精度包括线性误差、滞后误差和重复性误差引起的测量误差。FSM 的压力传感器正在进行零点校准和振幅调整。因此，这两个误差都得到了补偿。因此，规定的精度包括室温下的最大误差。

* The accuracy describes the maximum permissible measurement deviation of the sensor output signal from an applied pressure value. The accuracy includes measurement errors due to linearity errors, hysteresis errors and repeatability error. Pressure transducers from FSM are being subjected to a zero point calibration and an amplitude adjustment. Both errors are thereby compensated. The specified accuracy therefore includes the maximum error at room temperature.

电气数据 | Electrical data	
电源 | Power supply	三线制： | Three wire 22... 27 VAC (50 Hz) / 19... 31 VDC 二线制：| Two wire 19... 31 VDC
输出信号 | Output signal	三线制： | Three wire 通过 DIP 开关可选 | Selectable via DIP-switch 0-10 V（标准，负载≥1kΩ） | Load resistor ≥ 1k Ω) 2-10 V（负载≥1kΩ） | Load resistor ≥ 1k Ω) 4-20 mA（标准，负载≤500Ω）| Load resistor ≤ 500 Ω) 0-20 mA（负载≤500Ω） Ω Load resistor ≤ 500 Ω) 二线制：| Two wire 4-20 mA（负载≤500Ω） | Load resistor ≤ 500 Ω)
最大功耗 | Max. power consumption	4.00 VA max.
防护等级 | Protection class	II
电气连接 | Electrical connection	三线制： | Three wire 5极弹簧端子，最大2.5mm² 5-pole spring terminal max. 2.5 mm² 二线制：| Two wire 二线制：2极弹簧端子，最大2.5mm² 2-pole spring terminal max. 2.5 mm²
时间常数 | Time constant	通过 DIP 开关可选： | Selectable via DIP-switch: 50 ms (Standard) / 500 ms / 2000 ms / 4000 ms

环境条件 | Ambient conditions	
工作条件 | Operating conditions	温度： | Temperature -20 °C... +80 °C 温度： | Humidity <95% 相对湿度 (无冷凝 | non-condensing)
存储条件 | Storage conditions	温度： | Temperature -20 °C... +80 °C 温度： | Humidity <95% 相对湿度 (无冷凝 | non-condensing)
环境压力 | Ambient pressure	600... 1200 hPa
电磁兼容性 | Electromagnetic compatibility	EN 61326-1

外壳参数 | Housing	
尺寸 | Dimensions	86 x 56 x 40 mm（高 x 宽 x 深） | H x W x D)
电缆密封接头 | Cable glands	M 12 x 1,5 mm
重量 | Weight	100 g
显示 | Display	可选：3.5 位 LC 显示屏| LC-Display 3.5-digit
防护类型 | Protection type	IP65
压力接口 | Pressure connections	ϕ6.6 x 10 mm（适配 ϕ6 mm 软管） | for flexible tubes Ø 6 mm)

型号编码 | Model Code

		示例 DS01+ Example for DS01+	10	1	3
基本测量范围 Basic Measuring range	0... 1 hPa 0... 10 hPa 0... 100 hPa	1 10 100			
LC 显示屏 LC Display	无 | none 有 | yes	1 2			
输出信号 Output signal	三线制 | Three wire 二线制 4-20 mA | Two wire 4-20 mA	3 2			

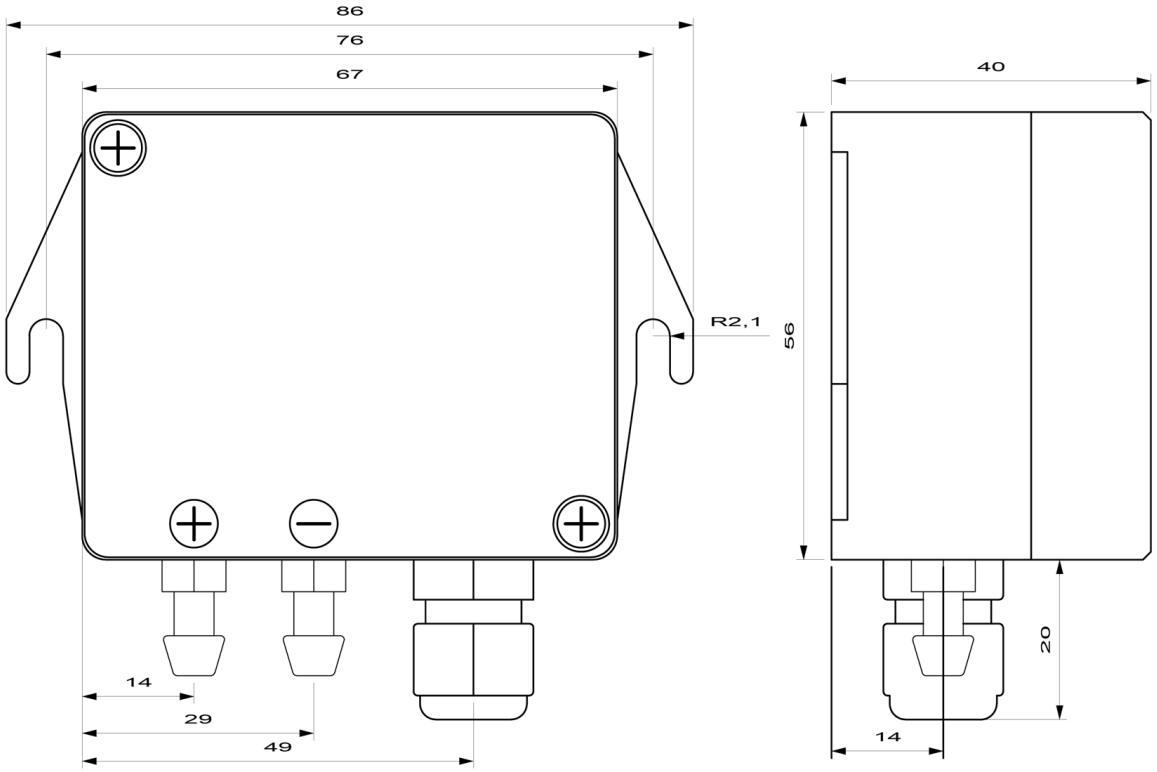
型号示例：DS01+1013

配置：
压力变送器 DS01+
基本测量范围：0...10 hPa
精度：1% 满量程
过载极限：100 hPa
电源：22...27 VAC（50 Hz）/19...31 VDC
输出信号：0-10 V/4-20 mA

Example for model code: DS01+1013

Configuration:
Pressure transmitter DS01+
Basic measurement range: 0... 10 hPa
Accuracy: 1 % F.S.
Overload limit: 100 hPa
Power supply: 22... 27 VAC (50 Hz) / 19... 31 VDC
Output signal: 0... 10 V / 4... 20 mA

尺寸图 | Scale drawing



欧盟合规声明摘录

我们单方面声明，DS01 + 产品符合以下指令和协调标准的要求，因此符合相关规定：

2014/35/EU	低电压指令
2014/30/EU	电磁兼容性指令
2011/65/EU	RoHS 指令
EN 61326-1:2013	测量、控制和实验室用电气设备 - EMC 要求 - 第 1 部分：一般要求
EN 61000-3-2:2014	电磁兼容性（EMC）- 第 3-2 部分：谐波电流发射限值（设备输入电流≤16 A / 相）
EN 61000-3-3:2013	电磁兼容性（EMC）- 第 3-3 部分：限值 - 公共低压供电系统中电压变化、电压波动和闪烁的限制（额定电流≤16 A / 相且不受特殊连接条件限制的设备）
EN 50581:2012	电气和电子产品有害物质限制评估技术文件

设备上贴有 CE 标志。

Extract from the EC Declaration of Conformity

We hereby declare under our sole responsibility that the DS01+ product complies with the requirements of the following Directives and harmonised standards and is therefore in line with the provisions:

2014/35/EU	Low-voltage Directive
2014/30/EU	EMC Directive
2011/65/EU	RoHS Directive
EN 61326-1:2013	Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements
EN 61000-3-2:2014	Electromagnetic compatibility (EMC) – Part 3-2: Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
EN 61000-3-3:2013	Electromagnetic compatibility (EMC) – Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection
EN 50581:2012	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

The device is labeled by the CE mark.